PROPOSAL EVALUATION

Proposition 84 Integrated Regional Water Management (IRWM) Grant Program

Implementation Grant, Round 1, FY 2010-2011

Applicant	Upper Kings Basin IRWM Authority	**Amount Requested**	$13,333,333
Proposal Title	Upper Kings Basin IRWM Authority Regional Groundwater Overdraft Reduction and Disadvantaged Community Water Supply Reliability Projects	**Total Proposal Cost**	$17,256,333

PROPOSAL SUMMARY

Six projects are included in the proposal: (1) Consolidated Irrigation District (CID) South and Highland Basin Project, (2) City of Clovis Surface Water Treatment Plant Expansion, (3) City of Fresno Residential Water Meter Project (Area IV), (4) Bakman Community Services District (CSD) Water Meter Installation Project, (5) East Orosi CSD Water Well Rehabilitation Project, and (6) County of Fresno Drummond Jensen Ave Sewer Connection Study.

PROPOSAL SCORE

Criteria	Score/ Points Possible	Criteria	Score/ Points Possible
Work Plan	**12/15**	Economic Analysis – Water Supply Costs and Benefits	**12/15**
Budget	**3/5**	Water Quality and Other Expected Benefits	**6/15**
Schedule	**5/5**	Economic Analysis – Flood Damage Reduction	**3/15**
Monitoring, Assessment, and Performance Measures	**4/5**	Program Preferences	**10/10**
		Total Score (max. possible = 85)	**55**

EVALUATION SUMMARY

The following is a review summary of the proposal.

Work Plan

The criterion is fully addressed, but is not supported by thorough documentation or sufficient rationale. A few tasks are lacking adequate detail, but overall the tasks support the Proposal. There is discussion of linkages among projects, and the work plan does include permits and California Environmental Quality Act (CEQA) compliance status. Goals and objectives related to the IRWM plan are addressed. Necessary relevant maps are provided. Scientific and technical information to support the feasibility of some of the projects is lacking. Furthermore, the level of detail used to describe Projects 1 and 2 are inadequate. There is no explanation if grant funds will be used in Project 3 to help offset customer costs associated with the project. Also, no reference to the respective Basin Plan was made in the proposal.

Budget

This criterion is not fully addressed, nor supported by thorough documentation and sufficient rationale. For example, Table 7 for Project 3 is not included in the application. There is a lack of supporting documentation for some line items in the budget; for example, there is no supporting information regarding Tasks 9 and 10.7 for Project 1 or for construction costs in Project 2. For tasks in which the costs are estimated, there is no explanation of how estimates are made.

Schedule

The criterion is fully addressed, and supported by thorough and well-presented documentation and logical rationale. The schedules appear to be reasonable, and at least one project will be ready to begin construction by 12/01/11. The schedule corresponds with tasks described in the work plan.

Monitoring, Assessment, and Performance Measures

The criterion is fully addressed, but is not supported by thorough documentation. For most projects, the applicant provides a good summary table that describes the output indicators and goals. For example, there is concern regarding the source of water for Project 1 given the application is unclear where this water will come from. If the source water is agricultural runoff, then water quality monitoring of the source water should be included.

Economic Analysis – Water Supply Costs and Benefits

Based on the quality of the analysis and supporting documentation, above average levels of water supply benefits relative to costs can be realized through this proposal. All six projects provide water supply benefits. Generally, the proposal provides a good analysis and explanation of costs and benefits.

Project 1 present value (PV) of costs is $6.4 million. Annual yield would average 2,500 acre-feet (AF), put into CID canals for delivery. Proposal presents a summary of recent water transfer prices in the basin to estimate the value of the yield at $225 per AF. Benefits are based on 2,500 AF average annual yield times $225, with PV of $7.9 million (M). Cost savings to pumpers in nearby wells is mentioned in Attachment 8, but not quantified. Unclear what benefits the diverted water would have provided elsewhere in the Kings River Basin if not diverted. The referenced feasibility study explicitly states that it did not consider uses of the water by others in the basin.

Project 2 costs are shown in 2009 $ values, and capital cost matches that shown in Table 7. Total PV of the project cost is $8.77 M. Water supply benefit is quantified as the avoided operation and maintenance (O&M) cost of groundwater pumping, cited as $104.75 per AF. Therefore, total PV of benefits would be $10.66 M. Proposal states that the contract with Fresno Irrigation District (FID) already pays for the surface water to be treated, so no cost is included. Reviewer notes there is still an opportunity cost to using this water – presumably it is currently being used for other purposes such as groundwater recharge within the Kings River Basin or larger region and the lost value of this use should be described.

Project 5 costs are shown in 2009 $ values and capital cost matches that shown in Table 7. Total PV of cost is shown as $0.115 M. Costs of annual administration, O&M are said to be similar to existing and to the alternative project, so no incremental annual cost is shown. Replacement water supply benefit is quantified as the avoided cost of new wells, and is shown in Attachment 8 as $1.94 M in PV.

Project 3 costs are shown in 2009 $ values and capital cost matches that shown in Table 7. Costs are well described and total PV is shown as $7.48 M. Fresno has developed a volumetric rate that will be implemented after meter installation. The applicant has assumed that the meter and volume charging will reduce residential water use by 10%. There is no reference study cited for this number, but it is within the range of savings suggested by the California Urban Water Conservation Council (CUWCC). The assumed reduction in water use is argued to reduce groundwater overdraft by 1,008 AF per year. The variable cost of the savings is estimated using the City's higher-cost supply: Central Valley Project (CVP) water including the avoided treatment cost. Per unit avoided cost is $245.56 per AF. Annual avoided cost is $0.244 M. The avoided cost per AF is escalated at 3% in the Table 12. With correction, the PV of benefits is $2.7 M. Also, the benefits description is inconsistent in that it describes the benefit of leaving more groundwater in storage for drought resilience. However, the reviewer notes that if the alternative supply is CVP surface water (not groundwater), there would be no benefit to groundwater storage.

For Project 4, the analysis and costs per meter are very similar to Project 3. For some reason, the project life for these meters is assumed to be 50 years rather than 30. Total PV of cost is shown as $2.68 million. The assumed reduction in water use is argued to reduce groundwater overdraft by 420 AF per year. The variable cost of the savings is the avoided pumping cost of $61 per AF according to page 7-16 of the application. This gives an annual avoided cost of $25,800. However, an avoided cost of $250 per AF is used to estimate water supply benefits, based on costs of local water transfers. Reviewer notes that an avoided cost estimate should use the cost of the most likely alternative, which in this case would be groundwater pumping at $61 per AF ($286,000 in PV).

Project 6 total cost of those items is $0.119 M ($0.105 in 2009 $ values). Applicant also states a conceptual cost estimate to construct the project (as requested at the workshop), of an additional $476 thousand construction cost. Applicant says these costs are included in Attachment 4 and in Table 11, but reviewer is unable to locate these. Costs are shown in 2009 $ values and study cost matches that shown in Attachment 4. Total PV of cost is $0.106 M. Costs to actually construct are described in the text, but not shown in tabular, PV form. Benefits are described, but are related to water quality. Reviewer considers this a water quality project rather than water supply.

Water Quality and Other Expected Benefits

Only average levels of water quality and other benefits relative to costs can be realized through this proposal, as demonstrated by the analysis and supporting documentation. Only two projects include quantified benefits in this category, but one of those is considered double-counting of benefits already counted as water supply. Quantitative water quality benefits claimed for the water meter projects are actually water supply benefits (see below). The applicant provided a good description of water quality benefits provided for Project 6. Project 5 is justified largely by water quality benefits.

The applicant claims that Project 1 would recharge high quality flood water and would improve groundwater quality over time. Ecosystem benefits are: use of the wetland area in the recharge ponds as temporary habitat for migrating birds. Also, a fishery benefit is claimed: the ability of CID to release water in a period to support Kings River fishery, and then divert and store the water.

Project 5 water quality benefits are quantified in Table 16 as the avoided cost of drilling replacement wells, at a cost of $1.94 M in PV. Based on the benefits description, this appears to be the most likely alternative.

Project 3 indirect benefits are described that may result from reduced residential water use. These include reduced movement of contaminants in groundwater because of reduced pumping. Again, these would

occur if the without project condition would have higher groundwater pumping, but the water supply benefits assumed the without project would purchase more CVP surface water. Applicant also includes the avoided cost of groundwater pumping – reviewer considers this to be a double-counting of benefits because the water supply analysis already calculated benefit based on avoided surface water purchase, not avoided groundwater pumping. This quantitative benefit is removed from the analysis. Analysis of water quality benefits for Project 4 are similar to Project 3.

The applicant includes a brief discussion of improved quality of delivered water, and reduced movement of existing groundwater plumes for Project 2. Project 6, a study, could lead to a project that replaces failing septic tanks, resulting in important improvement in groundwater quality.

Economic Analysis – Flood Damage Reduction

Only low levels of flood damage reduction (FDR) benefits relative to costs can be realized through this proposal, as demonstrated by the analysis and supporting documentation. Indirect, minor benefits are possible for Project 1. Quantified FDR benefits are displayed for Project 1, but are characterized as a conservative example; they do not appear to be the result of a detailed analysis. As such, the applicant does not include them in the overall summary of benefits in Attachment 10. Therefore, the reviewer has not carefully checked the numbers, but has assessed the benefit description as qualitative, representing an example of the possible benefits.

Program Preferences

The Proposal includes six projects that collectively will implement multiple Program Preferences including: Regional projects or programs, Effectively integrate water management programs and projects within hydrologic region, Address critical water supply or water quality needs of disadvantaged communities within the region, Drought preparedness, Use and reuse water more efficiently, Protect surface water and groundwater quality, and Ensure equitable distribution of benefits. The applicant thoroughly documents the breadth and magnitude of the Program Preference to be implemented.